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MOLECULAR BIOLOGY OF THE CELL

SECOND EDITION

Bruce Alberts • Dennis Bray
Julian Lewis • Martin Raff • Keith Roberts
James D. Watson



Garland Publishing, Inc.
New York & London

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Library of Congress Cataloging-in-Publication Data

Molecular biology of the cell / Bruce Alberts ... [et al.].—2nd ed.
p. cm.

Includes bibliographies and index.

ISBN 0-8240-3695-6.—ISBN 0-8240-3696-4 (pbk.)

1. Cytology. 2. Molecular biology. I. Alberts, Bruce.

DNLM: 1. Cells. 2. Molecular Biology. QH 581.2 M718

QH581.2.M64 1989

574.87—dc19

DNLM/DLC

for Library of Congress

88-38275

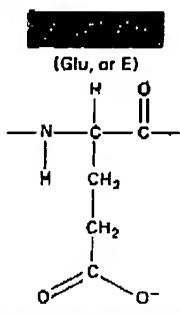
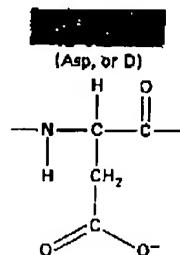
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Published by Garland Publishing, Inc.
136 Madison Avenue, New York, NY 10016

Printed in the United States of America

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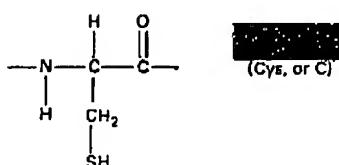
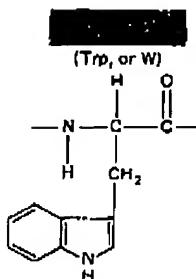
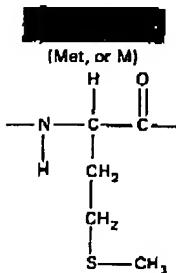
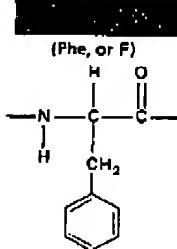
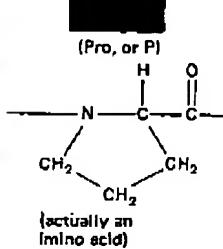
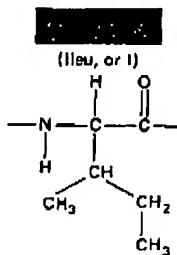
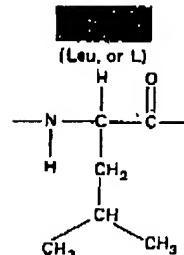
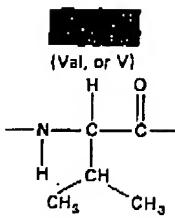
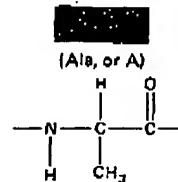
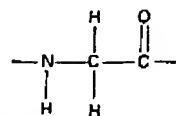
ACIDIC SIDE CHAINS



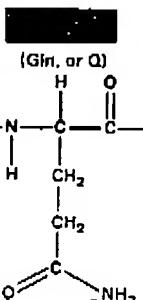
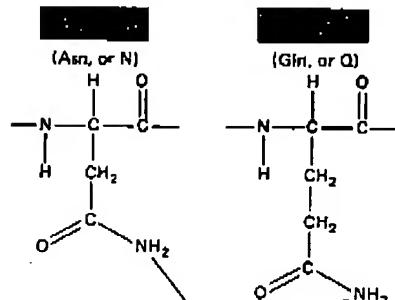
Amino acids with uncharged polar side chains are relatively hydrophilic and are usually on the outside of proteins, while the side chains on nonpolar amino acids tend to cluster together on the inside. Amino acids with basic and acidic side chains are very polar and they are nearly always found on the outside of protein molecules.

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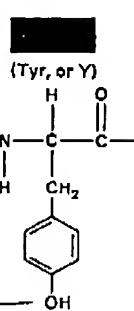
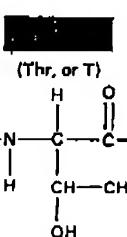
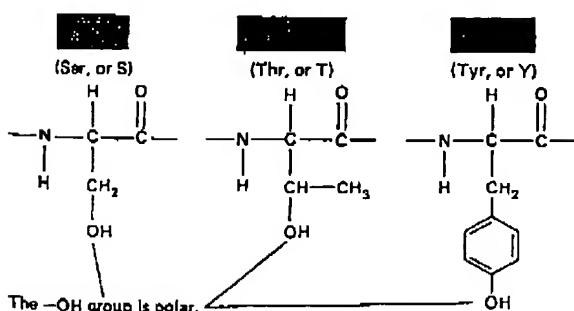
NONPOLAR SIDE CHAINS



UNCHARGED POLAR SIDE CHAINS



Although the amide N is not charged at neutral pH, it is polar.



The -OH group is polar.

Paired cysteines allow disulfide bonds to form in proteins.

